

REMARKS

Claims 5 and 13 have been cancelled because they were inconsistent with respective independent claims 1 and 12.

Claim Rejections – 35 USC §102 or 35 USC §103

Claims 1-21 stand rejected under 35 USC §102(b) or 35 USC §103(a) as being anticipated by or obvious over Pellicelli (US 4,482,602).

Pellicelli discloses dielectrically heatable polyolefin foams which contain unsaturated polyester (abstract). Specifically, by modifying polyolefins with α,β-unsaturated polyesters, dielectrically heatable foams may be produced (col. 1, lines 52-54). In Example 2, a 50-micron ethylene/vinyl acetate (EVA) film is welded in between two such modified polyethylene foam sheets via high frequency heating (col. 4, lines 64-68).

In contrast, the present invention is directed to a coating that is capable of bonding a foam sheet to a second foam sheet having a different chemical composition than the first foam sheet, with a bond strength of at least about 4 lb_f/inch. More specifically, the inventor has discovered that a coating comprising EVA is capable of bonding chemically-dissimilar foam sheets, e.g., PE and PP foams (see, page 10, lines 7-12 of the specification). As shown in Examples 7 and 8, the bond strength between PE and PP foams sheets as provided by an EVA coating was in excess of 13 lb_f/inch (see, page 17, line 18 through page 18, line 18 of the specification). This exceptionally high degree of bonding between chemically-dissimilar foams was unexpected at the time of the present invention.

In order to more clearly reflect the foregoing, claim 1 has been amended by incorporating therein the subject matter of claim 9 (with claim 9 being cancelled and the dependency of claims 10 and 11 being changed

from claim 9 to claim 1). Accordingly, claim 1 now recites that the composite structure includes a second foam sheet comprising a material of a different chemical composition than the (first) polyolefin foam sheet, and is bonded by the EVA coating to the (first) polyolefin foam sheet at a bond strength of at least about 4 lb_f/inch. This feature is neither taught nor suggested in Pellicelli. The only disclosure of an EVA film is in Example 2 of Pellicelli, wherein two foam sheets of the same composition are welded together. Pellicelli is directed to polyolefins modified with α,β-unsaturated polyesters to produce dielectrically heatable/weldable foams, but provides no suggestion that EVA may be used to bond two chemically-dissimilar foam sheets together as claimed. Independent claim 12, for example, recites a composite structure comprising PE foam bonded to PP foam by a coating of EVA. Nothing in Pellicelli teaches or suggests such a structure.

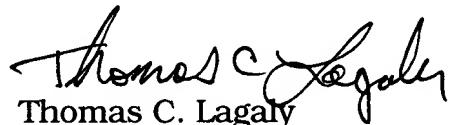
Accordingly, Applicant submits that the claims as now presented are novel and non-obvious over Pellicelli, and respectfully requests that the rejection be withdrawn.

Double Patenting

Claims 1-21 stand provisionally rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of copending application serial no. 09/472,088 in view of Byrd (US 5,300,338), which teaches the use of EVA and EAA as “tie layers.” However, Byrd is silent as to the use of EVA to bond two foam layers having different chemical compositions as claimed. Accordingly, Applicant respectfully submits that Byrd would not have suggested the use of EVA as a substitute for EAA in copending application serial no. 09/472,088, and requests that the double patenting rejection be withdrawn.

For all of the foregoing reasons, Applicant submit that the claims as now presented are patentably distinct from the references of record and are, therefore, in condition for allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,


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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claims 1, 9 and 10 have been amended as follows:

1. (Twice Amended) A composite structure, comprising:
 - a. a foam sheet comprising polyolefin; and
 - b. a coating disposed on at least one surface of said polyolefin foam sheet, said coating having a thickness ranging from about 1 to about 6 mils and comprising ethylene/vinyl acetate copolymer; and ,
 - c. a second foam sheet comprising a material of a different chemical composition than said polyolefin foam sheet and bonded by said coating to said polyolefin foam sheet at a bond strength of at least about 4 lb_f/inch.
~~whereby, said coating is capable of bonding said polyolefin foam sheet to a second foam sheet having a different chemical composition than said polyolefin foam sheet at a bond strength of at least about 4 lb_f/inch.~~
10. (Amended) The composite structure of claim 9 1, wherein said polyolefin foam sheet comprises polyethylene homopolymer or copolymer and said second foam sheet comprises polypropylene homopolymer or copolymer.
11. (Amended) The composite structure of claim 9 1, wherein said polyolefin foam sheet comprises polypropylene homopolymer or copolymer and said second foam sheet comprises polyethylene homopolymer or copolymer.

Claims 5, 9, and 13 have been canceled.